

REMARKS

In response to the June 9, 2006 Office Action, Applicants respond to the Examiner's detailed action with the following remarks numbered according to the Examiner's communication. Claims 1-22 are pending and rejected in the application. Claims 1 and 12 are amended hereby and Claims 3, 4, 8, 10, 11, and 16 are hereby cancelled without prejudice.

Claim Objections

13. Applicants amended Claim 12 to read, "...for spraying cooling water supplied from the cooling water pump...", as required by the Examiner.

Claim Rejections – 35 U.S.C. §102

14. The Examiner rejected Claims 1 and 2 under 35 U.S.C. §102(b) as being anticipated by U.S. 3,990,828 (Reifenhauser). Applicants have amended Claim 1 such that the expansion slits have gradually increasing lengths. Support for the amendment to Claim 1 can be found in the original Claims 8 and 11. No new matter is added. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Reifenhauser does not teach expansion slits having gradually increasing lengths. Therefore, Applicants respectfully submit that Claim 1 and Claim 2, which depends therefrom, are in condition for allowance.

Responsive to the Examiner's rejection of Claims 1-11 under 35 U.S.C. §102(e) as being anticipated by U.S. 6,863,856 (Mahoney, et al.), Applicant respectfully disagrees. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Applicants amended Claim 1 as described above so that the expansion slits have gradually increasing lengths. This is illustrated in Fig. 6A wherein the expansion slots 111b incrementally increase in length from the top to the bottom of the expansion tube 110b. Mahoney, et al., while allowing for alternate embodiments with channels that have different lengths than the illustrated embodiment, does not teach expansion slits with gradually increasing lengths.

Further, with respect to Claim 5 requiring the “interval of the adjacent left and right expansion slits is the width or less of each expansion slit with respect to the inner peripheral surface of the expansion tube,” Mahoney, et al. does not teach that the space between the expansion slits in the circumferential direction of the inner surface of the expansion tube is substantially equal to or less than the width of the expansion slits.

Applicants therefore respectfully submit that Claim 1 and Claims 2, 5-7, and 9, which depend therefrom, are in condition for allowance.

Claim Rejections – 35 U.S.C. §103

15. The Examiner rejected Claims 12-13 under 35 U.S.C. 103(a) as being unpatentable over U.S. 5,071,886 (Aoshima, et al.) in view of U.S. 5,516,270 (Lehtinen) and Claims 14-22 under 35 U.S.C. 103(a) as being unpatentable over U.S. 5,071,886 (Aoshima, et al.) in view of U.S. 5,516,270 (Lehtinen) and further in view of U.S. 6,863,856 (Mahoney, et al.). Applicants have amended Claim 12 such that the “interval of the adjacent left and right expansion slits is the width or less of each expansion slit with respect to the inner peripheral surface of the expansion tube.” Support for the amendment to Claim 12 can be found in the original Claim 16. No new matter is added. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

The amended Claim 12 thus requires the space between the expansion slits in the circumferential direction of the inner surface of the expansion tube to be substantially equal to or less than the width of the expansion slits. The Examiner has not shown that the combination of the references teaches such a relationship between the expansion slits and the interval between them. Further, the Examiner has not shown that the

combination teaches "a plurality of cooling water nozzles for spraying cooling water supplied from the cooling water pump," as required by Claim 12. Lehtinen's tool is cooled by circulating water through the closed cooling-medium channels. This is quite different than spraying a cooling medium through a plurality of nozzels. Even further, the combination of Aoshima, et al. and Lehtinen, as applied to Claims 12 and 13, does not teach longitudinal expansion slits. The "closed cooling-medium channels" of Lehtinen do not penetrate the tool and thus are not expansion slits.

Further, with respect to Claim 14, the combination of the references does not teach expansion slits having gradually increasing lengths. As described above, Aoshima, et al. and Lehtinen do not teach expansion slits and Mahoney, et al., while allowing for alternate embodiments with channels that have different lengths than the illustrated embodiment, does not teach expansion slits with gradually increasing lengths.

Applicant therefore respectfully submits that Claim 12 and Claims 13-22, which depend therefrom, are in condition for allowance.

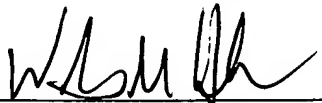
16. Applicants appreciate the opportunity to call the Examiner but believe that this amendment to the claims and the forgoing remarks fully address the issues raised by the Examiner. On the other hand, the Examiner is invited to call the undersigned practitioner if the Examiner has any matters to address that will facilitate allowance of the application.

In the event that Applicants have overlooked the need for an extension of time, additional extension of time, payment of fee, or additional payment of fee, Applicants hereby conditionally petition therefore and authorize that any charges be made to Deposit Account No.: 50-3010.

Applicants respectfully request favorable consideration and the timely issuance of a Notice of Allowance in this case.

Appl. No. 10/807,690
Resp. Dated September 11, 2006
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Respectfully submitted,
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